

PORTABLE ELECTRONIC APPARATUS HAVING A DETACHABLE DISPLAY UNIT AND A SOCKET LID

This application is a continuation of application Ser. No. 07/853,861 filed Nov. 20, 1992 now abandoned which is a continuation of Ser. No. 07/577,544 filed Sep. 5, 1990 now abandoned.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a portable electronic apparatus such as a lap-top personal computer or word processor, more particularly, to a portable electronic apparatus in which a flat panel display unit is detachable from a base body.

2. Description of the Related Art

Recently, a sharp increase is being achieved in the demands for a lap-top portable computer or portable word processor having a flat panel display unit. As described in, for example, U.S. Pat. No. 4,749,364, such a lap-top portable electronic apparatus comprises a base body having a keyboard integrally attached thereto and a flat panel display unit mounted to the base body. The display unit is swingably mounted to the base body with a hinge. When the apparatus is not used, the display unit is folded and superposed on the base body. In using the apparatus, the display unit can be swung upward about the mounted portion to assume a posture suitable for observation by the operator.

The display unit, when superposed on the keyboard of the base body, also acts as a lid of the keyboard. In this case, the entire electronic apparatus is of a substantially flat shape like, for example, a book, with the result that the entire apparatus can be made compact.

The portable electronic apparatus comprises in general a liquid crystal display unit (LCD) or a plasma display unit. In any type of the conventional display unit, a single color is used for the display of the picture image. For example, the picture image is displayed in black over a white background or over a green background. In other words, it is impossible to use a plurality of colors for the display purpose.

However, it is desirable in some cases to use a display unit of multi-color display type while using the keyboard of a portable electronic apparatus in operating, for example, a portable personal computer. In such a case, an electrical lead wire is withdrawn from the back or side surface of the base body of the portable personal computer and is electrically connected to the multi-color display unit, and the single color display unit is detached from the base body of the portable personal computer. To make the single color display unit detachable from the base body, it is known to the art that a socket is mounted to the base body, and a plug formed in the single color display unit is detachably connected to the socket. The socket is swingably mounted to the base body with a hinge to make the display unit swingable relative to the base body.

Where the single color display unit is detached from the socket of the base body in preparation for use of a multi-color display unit, the opening of the socket for receiving the plug is exposed to the outside. As a result, the appearance is impaired. In addition, a connector housed in the socket for electrically connecting the single color display unit to the base body is also exposed to the outside. In this case, dust may settle on the con-

necter, with the result that, when the display unit is connected again to the base body, the electrical and mechanical connection tends to be made unsatisfactory.

Under the circumstances, the opening of the socket is covered with a lid in the conventional apparatus. However, the lid is unnecessary where the display unit is connected to the base body. At these times the lid is stored in a pocket formed in a wrapping box of the portable electronic apparatus. However, the wrapping box is discarded in some cases. Of course, the lid also tends to be discarded together with the wrapping box. It is certainly possible to store the lid independently. If the lid is stored somewhere away from the base body, however, the operator may possibly fail to remember where the lid is stored. Naturally, it takes time for the operator to find the lid, when the operator wishes to mount the lid to close the opening of the socket.

SUMMARY OF THE INVENTION

An object of the present invention is to provide a portable electronic apparatus in which the lid serving to cover the opening of a socket when the display unit is detached is prevented from being lost and the opening can be promptly covered with the lid, when required.

According to the present invention, there is provided a portable electronic apparatus, comprising:

- a base body having a socket storage portion;
- a display unit having a display;
- a socket having an opening, provided on the socket storage portion and swingably mounted to the base body;

a plug mounted to the display unit and detachably fitted into the socket, said display unit being detachably joined and swingably mounted to the base body by fitting the plug into the socket;

electrical connecting means for electrically connecting said display unit to the base body by fitting the plug into the socket;

a lid serving to cover the opening of the socket when the display unit is detached from the base body by removing the plug from the socket;

mechanical connecting means for detachably connecting said lid to the socket; and

a lid storing means for storing the lid when removed from the opening of the socket.

Where the display unit is detached from the base body, the opening of the socket can be covered with the lid. On the other hand, where the display unit is connected to the base body, the lid removed from the opening portion of the socket can be held in the storing means. Naturally loss of the lid need not be worried about. Also, the opening of the socket can be promptly closed with the lid, when desired.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate presently preferred embodiments of the invention, and together with the general description given above and the detailed description of the preferred embodiments given below, serve to explain the principles of the invention.

FIG. 1 is an oblique view showing the entire portable computer according to a first embodiment of the present invention;

FIG. 2 is an oblique view showing that a flat panel display unit is separated from the base body of the portable computer shown in FIG. 1;